

NCLEX IV (8): Physiological Integrity/Physiological Adaptation

Anatomy and Physiology
Normal Structures

on 2nd page

Pathophysiology of Disease

COPD- progressive lung disease characterized by persistent airflow limitation. Its associated with An enhanced chronic inflammatory Response in the airways and lungs.

COPD is typically caused by long-term exposure to irritating gases or particulate matter, often from **cigarette smoke**, but it can also result from other environmental factors such as air pollution, chemical fumes, or dust.

Chronic Bronchitis: This involves the long-term inflammation and irritation of the airways (bronchial tubes) in the lungs. It leads to increased mucus production and can cause a persistent cough.

Emphysema: This condition involves the destruction of the air sacs (alveoli) in the lungs, reducing the lung ability to expand and contract properly for breathing.

NCLEX IV (7): Reduction of Risk

Anticipated Diagnostics
Labs

- ~~ABG~~
- ~~Serum (antitrypsin)~~

Additional Diagnostics

- H&P
- CXR ~~✗~~
- Spirometry ~~✗~~
- 6-min walk test
- COPD Assessment Test (CAT)

- 4 classifications / develops slowly and most pt. have chronic

NCLEX II (3): Health Promotion and Maintenance

Contributing Risk Factors

- smoking ~~✗~~
- infection
- asthma
- air pollution
- occupational chemicals and dusts
- aging ~~✗~~
- genetics
- alpha-1 antitrypsin deficiency

Signs and Symptoms

- shortness of breath,
- chronic cough
- increased production of mucus,
- wheezing,
- feeling of tightness in the chest
- dyspnea (at rest late stage sign)

NCLEX IV (7): Reduction of Risk

Possible Therapeutic Procedures

Non-surgical

- Oxygen Therapy

Surgical

- lung volume reduction
- bullectomy
- lung transplant
- bronchoscopic lung volume reduction

Prevention of Complications

(What are some potential complications associated with this disease process)

- pulmonary hypertension
- cor pulmonale
- acute exacerbations ~~✗~~
- Acute Respiratory Failure (ARF)
- pneumonia ~~✗~~
- HF

NCLEX IV (6): Pharmacological and Parenteral Therapies

Anticipated Medication Management

- SABA
- LABA & ICS
- LAMA

NCLEX IV (5): Basic Care and Comfort

Non-Pharmacologic Care Measures

- airway clearance techniques
- incentive spirometer ~~✗~~
- smoking cessation
- Nutrition supplements
- breathing exercises. retaining ~~✗~~

NCLEX III (4): Psychosocial/Holistic Care Needs

What stressors might a patient with this diagnosis be experiencing?

- trouble coughing ~~✗~~
- poor support system
- feeling less incontrol
- new disease(deficient knowledge)
- anxiety
- fear

Client/Family Education

List 3 potential teaching topics/areas

- Breathing exerises and retaining ~~✗~~
- Incentive spirometer ~~✗~~
- alternative ways to do ADLs

NCLEX I (1): Safe and Effective Care Environment

Multidisciplinary Team Involvement

(Which other disciplines do you expect to share in the care of this patient)

- dietitian ~~✗~~
- RT ~~✗~~
- OT
- PT
- Hospitalist
- social worker / case management

Anatomy & physiology

Bronchi The bronchi are the large airways that branch off from the trachea and lead into each lung. There is one primary bronchus for each lung, and they further divide into smaller bronchi, which then branch into bronchioles.

Bronchioles: Bronchioles are smaller airways that continue to branch within the lungs. They lack cartilage rings found in larger bronchi and are responsible for directing air to the alveoli.

Alveoli: Alveoli are tiny, thin-walled air sacs at the end of bronchioles where gas exchange occurs. Oxygen from inhaled air diffuses into the bloodstream, and carbon dioxide from the blood diffuses into the alveoli to be exhaled.

Pleura: The pleura is a double-layered membrane that surrounds each lung. The visceral pleura covers the lung surface, while the parietal pleura lines the chest cavity. A small amount of lubricating fluid between these layers allows the lungs to expand and contract within the chest cavity without friction.

Diaphragm: The diaphragm is a dome-shaped muscle located beneath the lungs. Contraction and relaxation of the diaphragm are essential for the process of inhalation and exhalation.

Respiratory Muscles: In addition to the diaphragm, other respiratory muscles, including the intercostal muscles between the ribs, help control chest expansion and contraction during breathing.

Pulmonary Arteries and Veins: The pulmonary arteries carry oxygen-poor blood from the right side of the heart to the lungs, while the pulmonary veins transport oxygen-rich blood from the lungs back to the left side of the heart.

Lobes: Each lung is divided into lobes. The right lung typically has three lobes (upper, middle, and lower), while the left lung has two (upper and lower). These lobes have specific functions and anatomy.

Hilum The hilum is a region where the bronchi, pulmonary arteries, pulmonary veins, and lymphatic vessels enter and exit the lung. It is located on the medial surface of the lung.

Lymph Nodes: Lymph nodes in the lung's surrounding area, including the mediastinum and hilar lymph nodes, are part of the lymphatic system and play a role in immune response and drainage of lymphatic fluid.

Surfactant: Surfactant is a fluid produced by specialized cells in the alveoli. It reduces surface tension in the alveoli, preventing them from collapsing and making it easier to breathe.

Cilia: Tiny hair-like structures called cilia line the airways and help move mucus and trapped particles out of the respiratory system, assisting with the removal of debris and pathogens.

Mucus: The lining of the respiratory tract produces mucus, which traps foreign particles and microorganisms. The cilia move this mucus toward the throat to be swallowed or coughed up.

Gas exchange

External Respiration:

- Ventilation:** Breathing brings air into the lungs through the respiratory system. When you inhale, oxygen-rich air is drawn into the alveoli, which are the tiny air sacs at the end of the bronchioles.
- Diffusion:** The walls of the alveoli are very thin and are surrounded by a dense network of capillaries (small bloodvessels). Oxygen in the alveoli diffuses across the alveolar membrane into the surrounding capillaries. This oxygen binds to hemoglobin in red blood cells, forming oxyhemoglobin.
- Transport:** Oxygen-rich blood is carried away from the lungs through the pulmonary veins and is delivered to the left side of the heart. The left side of the heart then pumps this oxygenated blood to the systemic circulation, delivering oxygen to body tissues.
- Exchange of Carbon Dioxide:** Simultaneously, carbon dioxide-rich blood from the systemic circulation returns to the right side of the heart via the superior and inferior vena cava. This blood is then pumped into the pulmonary circulation and carried to the alveoli.
- Diffusion of Carbon Dioxide:** In the alveoli, carbon dioxide diffuses from the blood into the alveoli. From there, it is expelled from the body during exhalation.

Internal Respiration:

- Oxygen Delivery:** Oxygen-rich blood, pumped by the heart to the systemic circulation, travels through arteries and arterioles to reach the body's cells.
- Tissue Cells:** In the capillaries surrounding tissue cells, oxygen dissociates from hemoglobin and diffuses into the cells. Inside the cells, oxygen is used in the process of cellular respiration to produce energy (adenosine triphosphate or ATP).
- Carbon Dioxide Production:** During cellular respiration, carbon dioxide is produced as a waste product.
- Carbon Dioxide Transport:** Carbon dioxide diffuses out of the cells into the capillaries and is transported back to the heart via the veins.
- Return to the Lungs:** Carbon dioxide-rich blood is pumped back to the right side of the heart, which then pumps it to the lungs for removal during exhalation.

Immune response:

- Alveolar macrophages are primarily responsible for phagocytosis, which is the process of engulfing and digesting foreign particles, such as bacteria, viruses, dust, pollutants, and other debris that can be inhaled with the air. They act as the first line of defense in the lungs against potential pathogens.
- Lung Parenchyma: the functional and essential part of the lung tissue responsible for the exchange of oxygen and carbon dioxide during respiration. The most prominent structure in this region is the alveolus. Each alveolus in the lung parenchyma opens directly into an alveolar duct or a respiratory bronchiole.
- **immune defense:** secretion of immunoglobulin A/G and alveolar macrophages
- **mechanical barriers to defend against infection:** air filtration, epiglottis closure over the trachea, cough reflex, mucociliary escalator mechanism (mucus traps particles and cilia propel mucus up and out of the lungs) and reflex bronchoconstriction (tightening making it harder to breathe)

ACTIVE LEARNING TEMPLATE: *Medication*

STUDENT NAME _____

MEDICATION _____ REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Therapeutic Use

Complications

Medication Administration

Contraindications/Precautions

Nursing Interventions

Interactions

Client Education

Evaluation of Medication Effectiveness

Module Report

Tutorial: Real Life RN Medical Surgical 4.0

Module: COPD



Individual Name: Rachel Dietz

Institution: Margaret H Rollins SON at Beebe Medical Center

Program Type: Diploma

Standard Use Time and Score

	Date/Time	Time Use	Score
COPD	11/1/2023 12:04:43 PM	35 min	Needs Improvement !

! This attempt ended prematurely due to a detrimental decision or a series of missteps.

Reasoning Scenario Details COPD - Use on 11/1/2023 11:50:51 AM

Reasoning Scenario Performance Related to Outcomes:

*See Score Explanation and Interpretation below for additional details.

Body Function	Strong	Satisfactory	Needs Improvement
Immunity			100%
Oxygenation	33.3%	66.7%	

NCLEX RN	Strong	Satisfactory	Needs Improvement
RN Management of Care		100%	
RN Pharmacological and Parenteral Therapies			100%
RN Reduction of Risk Potential	100%		
RN Physiological Adaptation		100%	

QSEN	Strong	Satisfactory	Needs Improvement
Safety	50%		50%
Patient-Centered Care		100%	

Decision Log:

Scenario	Nurse Allyson is preparing her assignment/worksheet, in anticipation of caring for Mr. Gomez. He is coming from the emergency department to the medical-surgical unit.
Question	Nurse Allyson is planning care for Mr. Gomez. He is coming from the emergency department. Which of the following data should the nurse include in the plan of care? (Select all that apply.) Review the data in the EMR and the information the nurse has captured below for the assignment/worksheet. T - 99.2; P - 100; R - 36; O2 Sat 91% on 5L of O2; BP - 150/94; I - NPO; O - 250mL clear yellow urine Dx - Pneumonia, exacerbation of COPDLabs/Diagnostics - ABGs, CBC, chest x-ray, chem/metabolic profile, UA and C&S of sputum pendingAllergies - AmpicillinSaline Lock - Left wrist, flushes finePain - DeniesSystems - 1. Lung sounds diminished in the bases and upper lobes sounds coarse with inspiratory crackles and occasional rhonchi. Productive cough, greenish-yellow tenacious sputum. 2. Alert, orientedMedications - Antibiotic has not been started. Has had 2 nebulizer treatments with albuterol. (Check the MAR.)
Selected Ordering	Code statusArterial blood gas (ABG) valuesDietary preferencesActivity toleranceLast dose of bronchodilator medication
Rationale	Respiratory insufficiency and failure are life-threatening complications of COPD. Use the priority framework of ABCs; anticipating the client can readily go into respiratory arrest and determining a course of action are priorities. Arterial blood gases establish a client's baseline oxygenation and gas exchange, and are a basis for evaluating a client's respiratory status. Nutrition concerns are relevant to the rehabilitation process of a client who has COPD, not the client in an acute stage of respiratory failure. Activity tolerance would not be a priority concern at this time. Exacerbation of COPD warrants optimization of bronchodilator medications as first-line therapy and identifying the best combination of medications to be given on a regular schedule.

Scenario	Nurse Allyson is assessing Mr. Gomez's respiratory and oxygenation status after his recent admission to the medical-surgical unit.
Question	Nurse Allyson assessed Mr. Gomez's respiratory status. Which of the following actions should Nurse Allyson take?
Selected Option	Encourage Mr. Gomez to cough and deep breathe frequently.
Rationale	Coughing and deep breathing by the client can cause fatigue and does not address the rate of current oxygen delivery, which is decreasing his respiratory drive.

Optimal Decision

Scenario	Nurse Allyson is preparing to administer an intermittent intravenous (IV) bolus antibiotic medication to Mr. Gomez.
Question	Review the five videos below related to the administration of the IV piggyback ceftriaxone (Rocephin) to Mr. Gomez and reorder the steps into the correct sequence by dragging them into the desired order.

Selected Ordering	Video B: Complete the six rights using the MAR, noting client allergies. Video D: Gather supplies and equipment needed to administer the medication. Video A: Complete client identification using two forms of data, noting client's allergy band. Video C: Inform the client about the procedure and what to expect. Video E: Administer the medication.
Rationale	The correct order for administering the intermittent IV bolus medication is: complete the six rights using the MAR, noting client allergies; gather supplies and equipment needed to administer the medication; complete client identification using two forms of data, noting client's allergy band; inform the client about the procedure and what to expect; administer the medication.

Scenario	Nurse Allyson completes a calculation in order to correctly set the IV controller pump to infuse an intermittent intravenous (IV) bolus medication.
Question	The nurse is preparing to administer ceftriaxone (Rocephin) 1 g IV. Available is ceftriaxone 1 g in 100 mL sterile water. When administering the medication over 30 min, the nurse should set the IV pump to deliver how many mL/hr?
Selected Option	100 mL/hr
Rationale	<p>STEP 1: What is the unit of measurement to calculate? mL/hr</p> <p>STEP 2: What is the volume needed? 100 mL</p> <p>STEP 3: What is the total infusion time? 30 min</p> <p>STEP 4: Should the nurse convert the units of measurement? Yes (min does not equal hr)</p> $60 \text{ min}/30 \text{ min} = 1 \text{ hr}/X \text{ hr}$ $X = 0.5 \text{ hr}$ <p>STEP 5: Set up an equation and solve for X.</p> $\text{Volume (mL)}/\text{Time (hr)} = X \text{ mL/hr}$ $100 \text{ mL}/0.5 \text{ hr} = X \text{ mL/hr}$ $X = 200$ <p>STEP 6: Round if necessary.</p> <p>STEP 7: Reassess to determine if the amount to administer makes sense. If the amount prescribed is 100 mL to infuse over 30 min, it makes sense to administer 200 mL/hr. The nurse should set the IV pump to deliver ceftriaxone at 200 mL/hr every 12 hr.</p>

Student Name: Rachel Dietz
Clinical Instructor: Mrs. Wingate/Snyder

ATI Real Life COPD Virtual Clinical Reflection Questions:

- 1) Identify two members of the healthcare team collaborating in the care of this patient:
 - a. Registered Nurse
 - b. Respiratory Therapy
- 2) Did your patient have any abnormal blood work (lab)? If so, *select a priority finding* and discuss why that value is concerning.
 - a. WBC is elevated out of the normal range (5-10). This is concerning because that means there is an infection present.
- 3) Did your patient have any abnormal clinical diagnostic tests? If so, what were they and what was the abnormal finding? What can that indicate?
 - a. Chest Xray showing a severe pleural effusion, this would affect his breathing capabilities since his lungs won't be able to expand well. A thoracentesis will be needed to remove the pleural fluid.
- 4) What were some of the teaching topics covered in the scenario? Why were they important to the care of this patient?
 - a. Educated on reason for medication and side effects includes patient and decrease anxiety
 - b. Educated on reason of itching due to the IV medication, this is important, so they know for future visits.
 - c. Provided hand out on metered dose inhaler and a video to watch as well
- 5) What were some steps the nursing team demonstrated that promoted patient safety?
 - a. Hand Hygiene/Glove use PRN.
 - b. Elevated the bed at least 30 degrees.
 - c. Stopped IV medication upon discovery of allergic reaction.
- 6) Do you feel the nurse and medical team utilized therapeutic communication techniques when interacting with individuals, families, and health team members of all cultural backgrounds?

Yes, because they kept the patient and family aware of procedures and what they mean. The nurse addressed the itching reaction and explained why. She also made sure to ask often how the patient was feeling and if there was anything he needed. During teaching at discharge, she included his daughter since she is a caregiver in his life and ensured questions were answered.

Reflection

- 1) Go back to your Preconference Template:
 - a. Indicate (circle, star, highlight, etc.) the components of your preconference template that you saw applied to the care of this virtual patient.
- 2) Review your Nursing Process Form: Did you select a correct priority nursing problem?
 - a. If **no**, write what you now understand the priority nursing problem to be: Mr. Gomez's priority problem would be ineffective breathing patterns.

Student Name: Rachel Dietz

Clinical Instructor: Mrs. Wingate/Snyder

- 3) Review your Nursing Process Form: Did you see many of your anticipated nursing assessments and interventions used?
 - a. Indicate (circle, star, highlight) the ones you saw utilized during the scenario.
 - b. Were there interventions you included that *were not* used in the scenario that could help this patient?
 - i. If **no**, describe: I had included use of coughing/deep breathing techniques, Oxygen Therapy, elevating HOB for breathing, auscultating lung sounds and checking breathing patterns.
- 4) Often patient care will take a different direction than we anticipated at the beginning of our shift. Did that happen here? Yes
 - a. How did that impact the nursing care delivered?
He came in due to signs and symptoms relating to Pneumonia, antibiotics were provided. He had an allergic reaction to that medication, so the nurse needed to stop and note the IV medication. Then it was later found that he had pleural effusion that was affecting his ability to properly breathe effectively. He ended up having to do a thoracentesis to remove the fluid in the pleural cavity. The nurse would then need to evaluate patients' pain and ensure he is using the IS to expand his lungs. The change in the patients' health status altered his care plan the nurse had originally set up for him. The priority problem changed, altering his treatment he would need.
 - b. What new, additional priority nursing problem (diagnosis) did you identify? (Refer to your NANDA list)
 - i. Write it here: Decreased activity tolerance, ineffective coping, risk of impaired skin integrity, risk for loneliness

What was your biggest “take-away” from participating in the care of this patient? How did this impact your nursing practice:

The biggest take away I had with this patient’s care is to keep an open mind and not get tunnel vision. Just because a patient comes in for one diagnosis, does not mean that’s the patients only problem. If the nurse didn’t do a proper respiratory assessment, then she might not have found out he had a pleural effusion. If she did not educate the patient on signs of allergic response to medication or simply ask if he had an allergy, his health status could have worsened with the prolonged use of ceftriaxone. This impacted my own nursing practices by stressing the importance of explain procedures and educating the patient on their health status and methods to use to improve. If a patient is not properly informed it can cause repeat visits for the same problem or their condition to worsen, especially patients who live on their own. Knowing and understanding signs and symptoms can save a patients life.

ACTIVE LEARNING TEMPLATE: *Medication*

STUDENT NAME _____

MEDICATION _____ REVIEW MODULE CHAPTER _____

CATEGORY CLASS _____

PURPOSE OF MEDICATION

Expected Pharmacological Action

Therapeutic Use

Complications

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Nursing Interventions

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Nursing Problem Worksheet

Name: Rachel Dietz

Anticipated Patient Problem and Goals	Relevant Assessments (Prewrite) What assessments pertain to your patient's problem? Include frequencies	Multidisciplinary Team Intervention (Prewrite) What will you do if your assessment is abnormal?
Problem: Impaired Airway Clearance Reasoning: - ineffective coughing - coarse lung sounds - retained thick secretions Goal: Pt. will maintain clear open airways, evidence by normal breath sounds by the end of my care. Goal: Patient demonstrates effective coughing techniques by the end of my care	Auscultate for changes in lung sounds Q4 hr	Ensure HOB is greater than 30 degrees Q4 hr
	Assess Respiratory rate, depth, and use of accessory muscles Q4 hr	Administer Beta-2-adrenergic agonists as ordered PRN to help open airway
	Assess Sputum consistency, quantity, color and odor Q4 hr	Encourage to splint chest and use abdominal muscles when coughing up secretions Q2 hr
	Use pulse oximetry to monitor oxygen saturation/ assess ABGs Q4 hr	Administer 1-2L NC PRN for maintaining SPO2 88%-92%
	Assess ability to cough up sputum Q2 hr	Encourage 2-3 L of fluid intake, increase humidification and encourage activity/postion changing Q2 hr

Anticipated Patient Problem and Goals	Relevant Assessments (Prewrite) What assessments pertain to your patient's problem? Include frequencies	Multidisciplinary Team Intervention (Prewrite) What will you do if your assessment is abnormal?
Problem: Impaired Nutritional Intake Reasoning: - insufficient muscle tone - body weight 20% below ideal weight range - decrease daily food intake Goal: Patient is able to consume atleast 70% of meals during my end of care Goal: Mucous membranes will be moist and intact during my care	Assess energy level to eat Q2 hr	encourage small feedings of soft foods or liquids Q4hr
	Assess oral cavity is moist and intact Q2 hr	Provide moist oral swabs and encourage fluid intake Q2 hr
	Monitor Lab values for nutritional status Q12 hr	encourage meal supplements and high calorie meals, favorite foods Q4 hr
	Assess willingness to eat Q4 hr	educate on importance of high protein meals/ 20-30 g of fiber a day

Module Report

Tutorial: Real Life RN Medical Surgical 4.0

Module: COPD



Individual Name: Rachel Dietz

Institution: Margaret H Rollins SON at Beebe Medical Center

Program Type: Diploma

Standard Use Time and Score

	Date/Time	Time Use	Score
COPD	11/1/2023 12:33:22 PM	28 min	Strong

Reasoning Scenario Details COPD - Use on 11/1/2023 12:05:37 PM

Reasoning Scenario Performance Related to Outcomes:

*See Score Explanation and Interpretation below for additional details.

Body Function	Strong	Satisfactory	Needs Improvement
Cognition and Sensation	100%		
Immunity	100%		
Ingestion, Digestion, Absorption & Elimination	100%		
Integument	100%		
Oxygenation	85.7%	14.3%	

NCLEX RN	Strong	Satisfactory	Needs Improvement
RN Management of Care	50%	50%	
RN Psychosocial Integrity	100%		
RN Pharmacological and Parenteral Therapies	100%		
RN Reduction of Risk Potential	100%		
RN Physiological Adaptation	100%		

QSEN	Strong	Satisfactory	Needs Improvement
Safety	100%		
Patient-Centered Care	85.7%	14.3%	
Evidence Based Practice	100%		
Teamwork and Collaboration	100%		

Decision Log:

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Selected Ordering	Code statusArterial blood gas (ABG) valuesDietary preferencesActivity toleranceLast dose of bronchodilator medication
Rationale	Respiratory insufficiency and failure are life-threatening complications of COPD. Use the priority framework of ABCs; anticipating the client can readily go into respiratory arrest and determining a course of action are priorities. Arterial blood gases establish a client's baseline oxygenation and gas exchange, and are a basis for evaluating a client's respiratory status. Nutrition concerns are relevant to the rehabilitation process of a client who has COPD, not the client in an acute stage of respiratory failure. Activity tolerance would not be a priority concern at this time. Exacerbation of COPD warrants optimization of bronchodilator medications as first-line therapy and identifying the best combination of medications to be given on a regular schedule.

Optimal Decision

Scenario	Nurse Allyson is assessing Mr. Gomez's respiratory and oxygenation status after his recent admission to the medical-surgical unit.
Question	Nurse Allyson assessed Mr. Gomez's respiratory status. Which of the following actions should Nurse Allyson take?
Selected Option	Decrease the rate of oxygen flow.

Rationale	Decreasing the rate of oxygen flow is the appropriate action because the lowest possible rate maintains oxygen status without depressing the respiratory drive. The client who has COPD with hypoxemia requires lower levels of oxygen delivery, usually in the range of 1 to 2 L/min. Some clients are chronic CO2 retainers (hypercapnia) and can be more oxygen sensitive, so too much oxygen increases CO2 retention and can result in lowered respiratory rates.
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Optimal Decision	
Scenario	Nurse Allyson is preparing to administer an intermittent intravenous (IV) bolus antibiotic medication to Mr. Gomez.
Question	Review the five videos below related to the administration of the IV piggyback ceftriaxone (Rocephin) to Mr. Gomez and reorder the steps into the correct sequence by dragging them into the desired order.
Selected Ordering	Video B: Complete the six rights using the MAR, noting client allergies. Video D: Gather supplies and equipment needed to administer the medication. Video A: Complete client identification using two forms of data, noting client's allergy band. Video C: Inform the client about the procedure and what to expect. Video E: Administer the medication.
Rationale	The correct order for administering the intermittent IV bolus medication is: complete the six rights using the MAR, noting client allergies; gather supplies and equipment needed to administer the medication; complete client identification using two forms of data, noting client's allergy band; inform the client about the procedure and what to expect; administer the medication.

Optimal Decision	
Scenario	Nurse Allyson completes a calculation in order to correctly set the IV controller pump to infuse an intermittent intravenous (IV) bolus medication.
Question	The nurse is preparing to administer ceftriaxone (Rocephin) 1 g IV. Available is ceftriaxone 1 g in 100 mL sterile water. When administering the medication over 30 min, the nurse should set the IV pump to deliver how many mL/hr?
Selected Option	200 mL/hr
Rationale	<p>STEP 1: What is the unit of measurement to calculate? mL/hr</p> <p>STEP 2: What is the volume needed? 100 mL</p> <p>STEP 3: What is the total infusion time? 30 min</p> <p>STEP 4: Should the nurse convert the units of measurement? Yes (min does not equal hr)</p> $60 \text{ min}/30 \text{ min} = 1 \text{ hr}/X \text{ hr}$ $X = 0.5 \text{ hr}$ <p>STEP 5: Set up an equation and solve for X.</p> $\text{Volume (mL)}/\text{Time (hr)} = X \text{ mL/hr}$ $100 \text{ mL}/0.5 \text{ hr} = X \text{ mL/hr}$ $X = 200$ <p>STEP 6: Round if necessary.</p> <p>STEP 7: Reassess to determine if the amount to administer makes sense. If the amount prescribed is 100 mL to infuse over 30 min, it makes sense to administer 200 mL/hr. The nurse should set the IV pump to deliver ceftriaxone at 200 mL/hr every 12 hr.</p>

Optimal Decision	
Scenario	Nurse Allyson responds to a request from Mr. Gomez's daughter related to a change in his condition.
Question	Mr. Gomez's daughter expresses concern to the nurse about her father's skin irritation and itching. Which of the following is a correct response by Nurse Allyson?
Selected Option	"I'll be right there."
Rationale	The nurse knows the client has an allergy to ampicillin (Unasyn) and is now receiving ceftriaxone (Rocephin). Itching and pruritus indicate the presence of an allergic response. The client's report of pruritus should be evaluated promptly.

Optimal Decision	
Scenario	Nurse Allyson reviews the appropriate action to take when a Mr. Gomez demonstrates an allergic response to a medication.
Question	When caring for Mr. Gomez during his allergic reaction, Nurse Allyson assesses his airway. What is the next appropriate nursing intervention?
Selected Option	Assess Mr. Gomez's breathing pattern.
Rationale	The nurse's next action is to monitor the client's breathing pattern for signs of increasing edema and respiratory distress.

Optimal Decision	
Scenario	Nurse Jessica uses therapeutic communication when discussing psychosocial issues with Mr. Gomez and his daughter.
Question	Which of the following nursing intervention is appropriate to meet the needs of Mr. Gomez and his daughter at this time?
Selected Option	Encourage Mr. Gomez and his daughter to further express their emotions.
Rationale	This is the correct response. Using active listening and an expression of the client's feelings helps to validate the feelings and their content. This approach conveys an attitude of caring and fosters ongoing communication.

Optimal Decision	
Scenario	Nurse Jessica recognizes the anatomical and physical changes that are occurring when Mr. Gomez develops a pleural effusion.
Question	Nurse Jessica is caring for Mr. Gomez and is aware that he has a pleural effusion. Which of the following images depicts a pleural effusion?
Selected Option	
Rationale	In a pleural effusion, fluid occupies the space that normally is filled with air in the pleural cavity.

Optimal Decision	
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Scenario	Nurse Jessica assesses Mr. Gomez, who has a chest tube and chest drainage system in place.
Question	Nurse Jessica received report from the AP about Mr. Gomez's difficulty breathing and increased anxiety. Which of the following activities should be included in the nurse's plan of care?
Selected Option	Assess all tube connections between the chest and the drainage system.
Rationale	Securing the chest tube to the drainage system reduces the risk of air leaks in an airtight system.

Optimal Decision	
Scenario	Nurse Allyson understands the basis for Mr. Gomez's protein nutrition status.
Question	Nurse Allyson recognizes that Mr. Gomez has an acute protein deficiency. Which of the following laboratory test results is useful in determining a client's protein nutrition status?
Selected Option	Prealbumin
Rationale	Prealbumin is a sensitive indicator of protein nutrition status, more so than albumin.

Optimal Decision	
Scenario	Review risk factors that make Mr. Gomez prone to skin breakdown.
Question	Review the list of risk factors to skin breakdown. Which of the following are risk factors that Mr. Gomez exhibit? (Select all that apply.)
Selected Ordering	Alcohol intake History of corticosteroid use Limited mobility Chronic illness (COPD)
Rationale	Risk factors that make the client prone to skin breakdown include having a chronic illness such as COPD, which alters oxygenation; a history of alcohol abuse, which alters his nutrition status; a history of corticosteroid use, which reduces his immune response; and limited mobility, which decreases circulation. Oral hygiene status is not a risk factor for skin breakdown.

Optimal Decision	
Scenario	Nurse Allyson is planning discharge teaching for a client with pneumonia and an acute exacerbation of COPD.
Question	Nurse Allyson is planning discharge teaching for Mr. Gomez. Which of the following should be included in the discharge instructions?
Selected Option	Begin a pulmonary rehabilitation program.
Rationale	Pulmonary rehabilitation can improve the endurance and pulmonary function of a client who has COPD. It increases the client's activity, which reduces dyspnea.